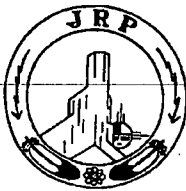


REDACTED VERSION



Pueblo of Laguna  
P.O. Box 194  
Laguna, New Mexico 87026

MLG & file

RECEIVED

SEP 20 1990

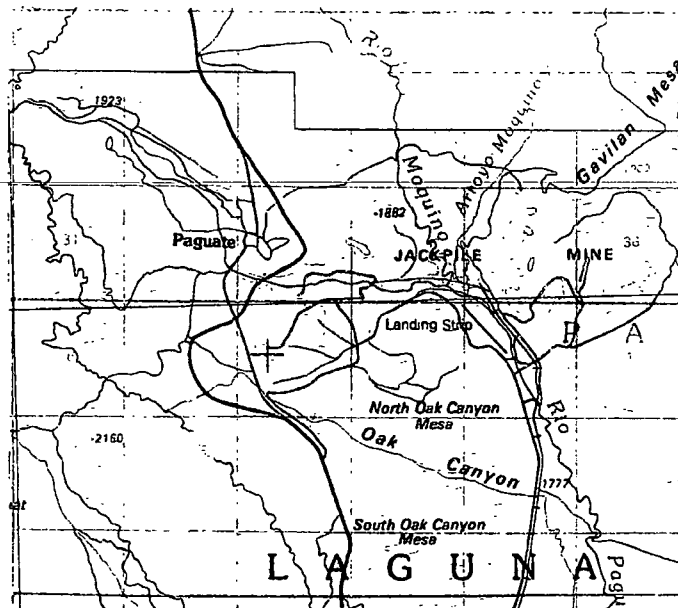
NOV 1989 HATTON, TAYLOR,  
CARADASH & FRYE

Confidential Claim Retracted

AUTHORIZED BY: SE

DATE: 5/10/13

## Jackpile Reclamation Project Pueblo of Laguna, New Mexico



### Project Status Report No. 13 August, 1990



9404043

LANDMARK RECLAMATION

**WESTON**  
MANAGERS DESIGNERS/CONSULTANTS

CONFIDENTIAL

POL-EPA01-0002868

# Jackpile Reclamation Project

## PUEBLO OF LAGUNA

P.O. BOX 184

LAGUNA, NEW MEXICO 87028

Office of  
Reclamation Project Manager

September 9, 1990

(505) 243-7616  
(505) 552-6654  
(505) 552-6655

TO: Governor Conrad W. Lucero  
FROM: Jim Olsen, Jr., P.E. - Reclamation Project Manager  
SUBJ: EXECUTIVE SUMMARY-AUGUST, 1990 Jackpile Project Status Report

During the month of August, 1990, the following items were addressed:

I. OPERATIONS: During August, 1990, about four working shifts were lost due to unusually severe and frequent rain storms, causing problems with the haulage routes. However, these problems were not overly disruptive since most of the work is significantly ahead of the original schedule. Some rilling on the sloped areas will be repaired with the shale and soil cover placement. Protore hauling to the North Paguate pit continued across the closed section of Highway #279. Fencing work picked up as planned. Backfill for the South Paguate Pit was placed with scrapers from an adjacent ore-associated waste pile and is progressing well. The additional dozer work authorized by Council in June, 1990 commenced and proceeded as planned. Fencing activities increased and will continue for several months.

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AUGUST, 1990 EXECUTIVE SUMMARY-Jackpile Reclamation Project cont'd

III. ENGINEERING ITEMS: Soil sampling work was completed by Ed Kelley and Sterling Grogan who are sub-contracting to Landmark/Weston. Results of the analyses and recommendation are expected by mid-September. The design for the Rio Moquino area was also submitted by Weston whereby the approved "benching" option will be utilized in lieu of the re-channelization design submitted by Jacobs Engineering. The new plan will be more cost effective and more practical in its design and complies with the Record of Decision provisions. The actual work in this area is scheduled for late in the 2nd Operating Year. Work on the 2nd Year Plan also continued with the listing and scheduling of the new work packages supplied by LCC, Inc. A request for Council time in late September to consider the Plan was submitted to the Secretary's Office.

IV. OTHER ITEMS: The 2nd Quarter, FY-1990 Environmental Monitoring and Regulatory Compliance Report was submitted to BIA and distributed to other interested parties. George Farris (BIA Environmental Manager) suggested disposing of the P-10 water heaters (with the asbestos insulation) off-site and arrangements are being made by the LCC to accommodate this recommendation. The State Highway Department continued their rehabilitation work on old 279 to repair damages caused by the intense rainfall events. The 2nd Quarter Environmental Monitoring and Regulatory Compliance Report was submitted to BIA. The 3rd Quarter Financial report is also being prepared with the assistance of the Treasurer's Office.

pc: Pueblo of Laguna Councilmen  
Les Taylor-Pueblo Legal Counsel  
Dave Sitzler-BLM/BIA  
Yamie Leeds-Laguna Agency Superintendent  
file: rpmreprt



# LANDMARK RECLAMATION

**LANDMARK RECLAMATION/WESTON**

**JACKPILE RECLAMATION PROJECT  
LAGUNA, NEW MEXICO**

**PROJECT STATUS REPORT**

**NO. 13**

**AUGUST, 1990**

**BY:**

  
**J. HARRISON  
PROJECT MANAGER**

**SEE DISTRIBUTION LIST**

## **1.0 INDEX SHEET**

- 2.0 ABSTRACT**
  - 2.1 Abstract
  - 2.2 Progress Map
  - 2.3 Construction Photos
  - 2.4 August Milestones
- 3.0 ACTION ITEMS**
  - 3.1 POL/RPM Action Items
  - 3.2 BIA/BLM Action Items
  - 3.3 Landmark/WESTON Action Items
  - 3.4 Laguna Construction Co.
- 4.0 PROJECT SCHEDULE**
  - 4.1 Four (4) Week Look Ahead
  - 4.2 Project Schedule (NIC)
- 5.0 WORK PACKAGE PROGRESS**
  - 5.1 Jackpile Tracking Summary
  - 5.2 Work Package Discussion
  - 5.3 Work Package Closeout
  - 5.4 Change Order Summary
- 6.0 PERFORMANCE MEASUREMENT**
  - 6.1 Performance Measurement
  - 6.2 Variances and Variance Explanations (NIC)
- 7.0 APPENDIX A: SPECIAL REPORTS/PLANS**
  - 7.1 Monthly Inspection Summary
  - 7.2 Regulatory and Reclamation Process Update
- 8.0 APPENDIX B: OTHER SPECIAL ISSUES (NIC)**

**NOTE: NIC Denotes Not Included in This Report**

## **2.1 ABSTRACT**

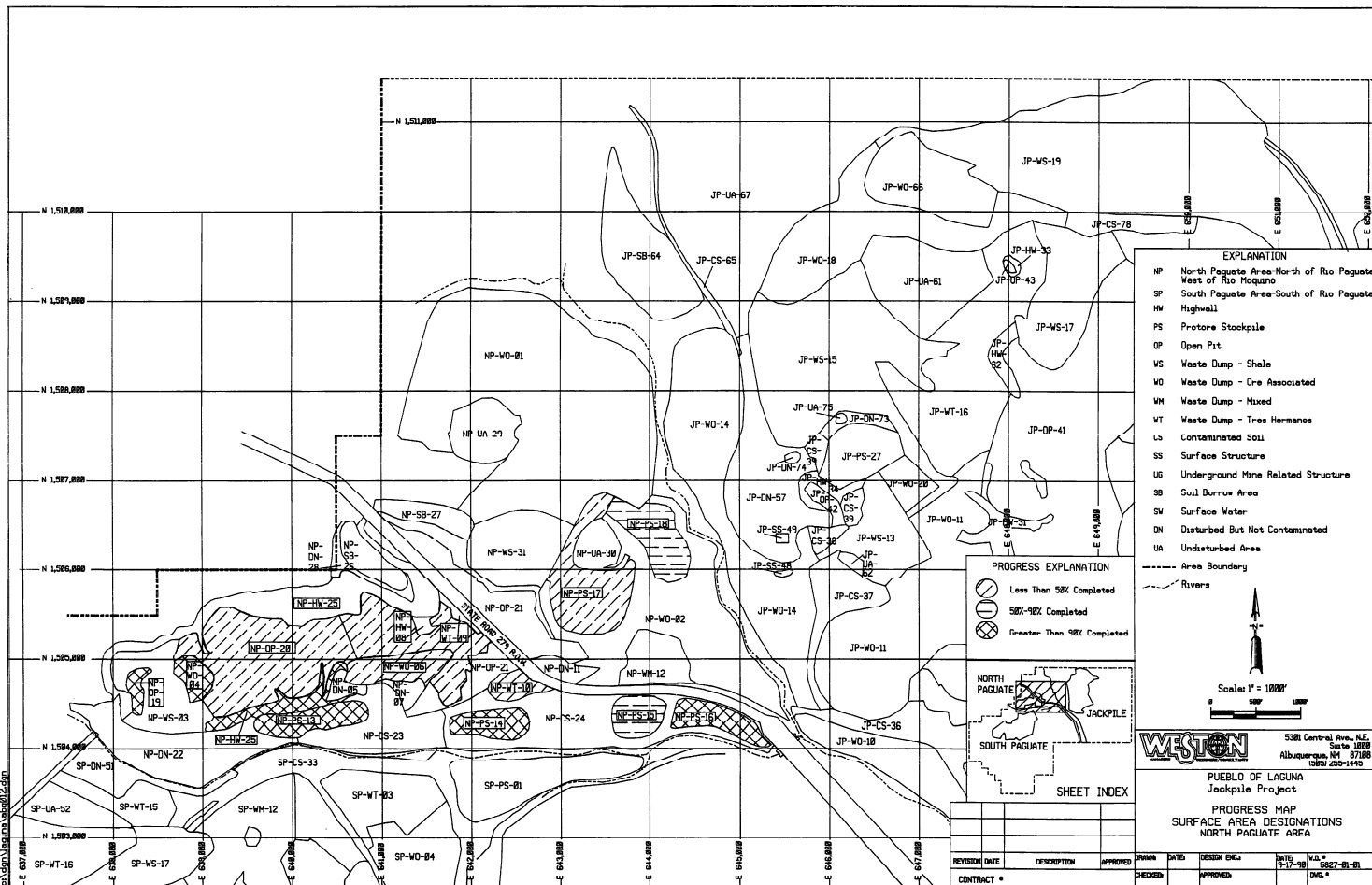
August, 1990 was the eighth month of full-scale earthmoving activities. Protore hauling across the closed highway continued from NP-PS-18. The scraper fleet moved into the South Paguate and began moving mine waste in SP-OP-34 to bring it up to its design grade. Dewatering of the South Paguate continued and should be done by October. The dozer fleet continued in the South Paguate miscellaneous areas. Unusually strong and frequent rain storms during August interrupted production for about four working days but damage to slope areas was not as severe as expected. Work on the 2nd Year Operating Plan continued with a goal of presenting it for POL-Council consideration in late September. LCC, Inc. has prepared the preliminary schedule and the cost information is under review. The final design recommendations on the Rio Moquino area work were completed and submitted by Weston.

## **2.2 PROGRESS MAP**

The attached progress maps indicate the percentages of completion for areas where work is being performed.







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POL-EPA01-0002876

### 2.3. Construction Photos

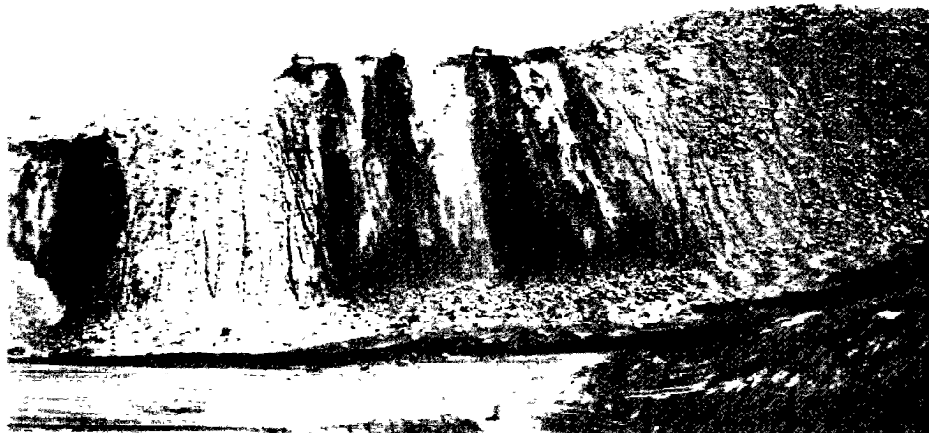


Figure 1. Beginning sloping work with dozers on SP-WT-19.



Figure 2. Backfilling Open Pit 34 with scrapers from SP-WO-14.

### 2.3. Construction Photos



Figure 3. Wil Lente standing at final grade in the North Paguate Pit.

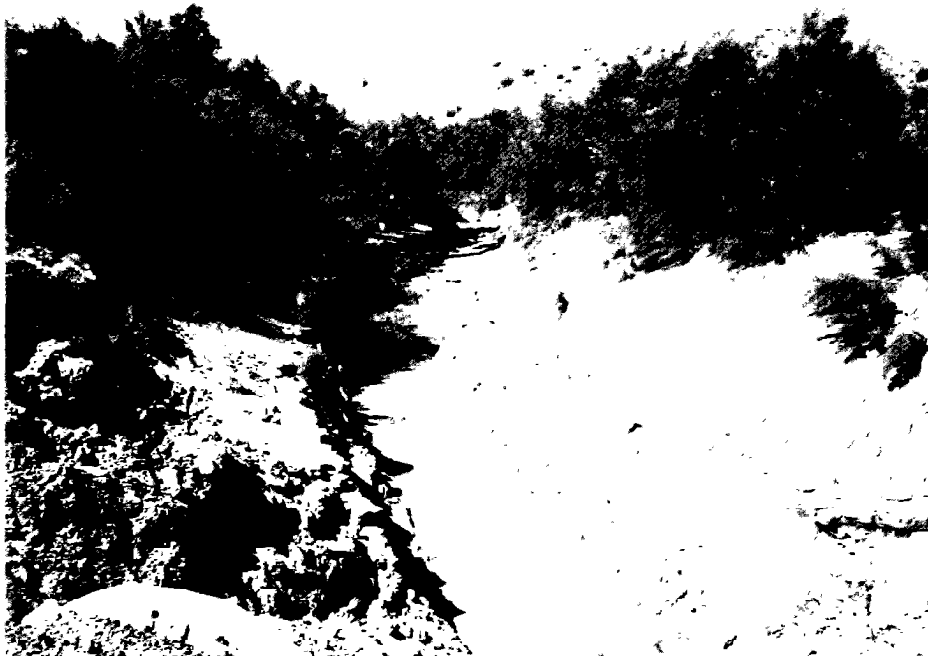
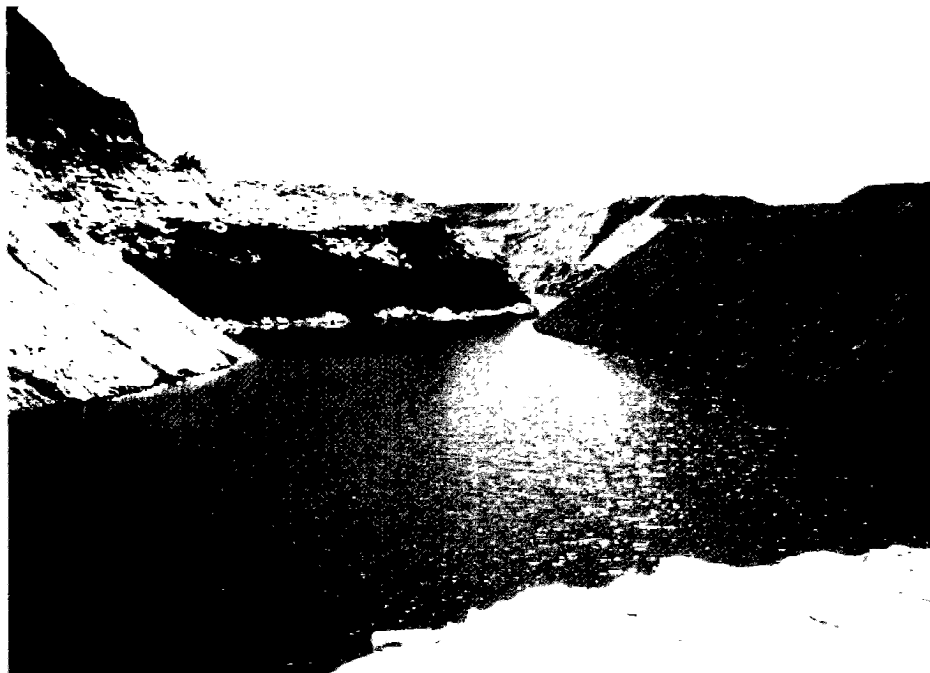


Figure 4. Erosional downcutting in the Rio Moquino due to an August storm event.

### 2.3. Construction Photos



**Figure 5.** Placing a fuel line for the pump and motor that goes into the Jackpile.



**Figure 6.** The lake in the Jackpile.

## 2.4 MILESTONES

- Unusually strong and frequent rain storms hampered operations for four days during the month. The crossing at the Rio Moquino washed out and a new large-diameter culvert had to be installed.
- The USGS replaced their gauging station next to the old trestle location.
- The Second Quarter Environmental Monitoring and Regulatory Compliance Report was distributed.
- The weather station was programmed and started. Some additional hardware items were ordered so the solar panel can be connected.
- The unit cost for terracing installation was completed by Laguna Construction Company, Inc.
- The Rio Moquino area design for bench installation and dump toe armoring was completed and is recommended as an alternative to the re-channelization plan.
- Installation of new fencing around the Pagate areas began.
- An advisory committee for the EPA's "Strawman" regulatory process on regulating mine wastes visited the site on August 23.

### **3.0 ACTION ITEMS**

#### **3.1 POL/RPM**

- 1) Continue 2nd Year Operating Plan effort
- 2) Prepare 3rd Quarter Financial report for BIA
- 3) Develop Cash Flow & Income needs for 2nd Year Plan

#### **3.2 BIA/BLM**

- 1) Assignment of new BIA Project Engineer
- 2) Funding of Ken King services on Paguate Blast Damage Study
- 3) Approval of P-10 decline closure plan from Landmark

#### **3.3 LANDMARK/WESTON**

- 1) Preparation of 2nd Year Plan Documents
- 2) Finish "Special Case" designs/recommendations
- 3) Complete soil sampling analyses/final recommendations from Ed Kelley

#### **3.4 LAGUNA CONSTRUCTION COMPANY**

- 1) Fencing of Paguate areas
- 2) Annual Shareholder's Meeting in late September, 1990
- 3) Complete dewatering of South Paguate area

# 4.1 FOUR WEEK LOOK AHEAD

Schedule Name : JACKPILE  
 Responsible : LCC  
 As-of Date : 20-Sep-90 Schedule File : G:\HOME\FKIP\TIMELINE\DATA\JACKPILE

WBS	Task Name	Duratn (Days)	Start Date	End Date	Total \$ (EAC)	Pct Achvd	90															
							Jul 2	9	16	23	30	Aug 6	13	20	27	Sep 4	10	17	24			
2E2S02	SP-WS-17 & 18	209	1-Dec-89	28-Sep-90	225,222.00	90	.....										██					

-----  
 ■ Detail Task      ■ Summary Task      ▲ Milestone  
 ■ (Started)      ■ (Started)      ►► Conflict  
 ■ (Slack)      ■ (Slack)      ■ Resource delay  
 ----- Scale: 1 day per character -----

TIME LINE Gantt Chart Report, Strip 1, Page 1

CONFIDENTIAL

POL-EPA01-0002882

Schedule Name : JACKPILE  
Responsible : LCC  
As-of Date : 20-Sep-90 Schedule File : G:\HOME\FKIP\TIME\LINE\DATA\JACKPILE

4.1 FOUR WEEK LOOK AHEAD

WBS	Task Name	Duratn (Days)	Start Date	End Date	Total \$ (EAC)	Pct Achvd	90				Aug				Sep					
							Jul 2	9	16	23	30	6	13	20	27	4	10	17	24	
2E2J14	JP-WO-11	120	1-Oct-90	26-Mar-91	668,614.00	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2E4S07	HAUL CS-62,32	3	10-Sep-90	12-Sep-90	11,432.00	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-

-----  
■ Detail Task    ■ Summary Task    ▲ Milestone  
■ (Started)    ■ (Started)    ►► Conflict  
■ (Slack)    ■ (Slack)    ..■ Resource delay  
-----  
Scale: 1 day per character



## **4.2 PROJECT SCHEDULE**

The truck fleet will continue in NP-PS-17 hauling protore to the North Paguate Pit. The scrapers will continue moving waste into SP-OP-34. An additional dozer will assist the other two working to fill OP-35 with the remaining dozers completing the miscellaneous dumps in the South Paguate before beginning work over on some of the Jackpile dumps. Dewatering of the South Paguate Pit continues and should be done by October. Fencing work will continue with the arrival of the additional fencing materials in early September and should continue into the late fall months.

## 5.1 TRACKING SUMMARY

Progress during August indicates an estimated variance at completion of plus (+) \$2,862,492. This is an improvement of \$255,365 in projected savings. Approximately \$180,000 was due to an incorrect reported % complete on 2E4S01. Anticipated saving for engineering/consulting services have been increased by \$30,000.

# JACKPILE TRACKING SUMMARY

FY90  
INTERIM  
MOBILIZATION  
ANNUAL OPERATING PLAN

AUGUST 1990

WBS ID NO.	WORK PACKAGE DESCRIPTION	TOTAL COST ESTIMATE	YTD ACTUAL COST	ACTUAL EQUIP CREDIT	ACTUAL CASH FLOW	REMAINING COST ESTIMATE	% OF ESTIMATE SPENT	REPORTED % COMPLETE	ESTIMATED VARIANCE AT COMPLETION
<b>MGMT CA SUMMARY</b>									
1P1	POL MANAGEMENT CA TOTAL	\$110,859.00	\$72,886.10	\$0.00	\$72,886.10	\$37,973.56	66%	75%	\$13,877.53
1P2	POL OTHER PROGRAMS CA TOTAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
1P	POL MANAGEMENT TASK TOTAL	\$110,859.00	\$72,886.10	\$0.00	\$72,886.10	\$37,973.56	66%	75%	\$13,877.53
1C1	CONSTRUCTION MANAGEMENT CA TOTAL	\$540,694.10	\$269,694.89	\$0.00	\$269,694.89	\$270,999.21	50%	61%	\$101,998.81
1C2	OTHER PROGRAMS CA TOTAL	\$200,018.90	\$205,116.43	\$0.00	\$205,116.43	(\$5,097.53)	103%	100%	(\$5,097.53)
1C	CONSTRUCTION MANAGEMENT TASK TOTAL	\$740,713.00	\$474,811.32	\$0.00	\$474,811.32	\$265,901.68	64%	74%	\$96,901.28
1	MANAGEMENT TOTAL	\$851,572.00	\$547,697.42	\$0.00	\$547,697.42	\$303,875.24	64%	74%	\$110,578.81

<b>CONST CA SUMRY</b>									
2L1	LCC COSTS CA TOTAL	\$810,300.00	\$597,500.00	\$0.00	\$597,500.00	\$212,800.00	74%	74%	\$2,867.57
2L2	LCC START-UP COSTS CA TOTAL	\$440,600.00	\$370,298.00	\$0.00	\$370,298.00	\$70,302.00	84%	100%	\$70,302.00
2L	LCC ADMINISTRATION TASK TOTAL	\$1,250,900.00	\$967,798.00	\$0.00	\$967,798.00	\$283,102.00	77%	82%	\$73,168.57
2M1	MOBILIZATION CA TOTAL	\$461,363.00	\$417,178.94	\$19.38	\$417,159.56	(\$815.94)	90%	90%	(\$790.50)
2M2	LAND SURVEY CA TOTAL	\$117,914.00	\$85,778.97	\$2,266.92	\$83,512.05	\$32,135.03	73%	79%	\$12,840.92
2M3	LCC TRAINING CA TOTAL	\$188,228.00	\$120,359.09	\$1,979.74	\$118,379.35	\$65,868.91	65%	68%	\$12,140.72
2M	MOBILIZATION TASK TOTAL	\$766,505.00	\$623,317.00	\$4,266.04	\$619,050.96	\$97,188.00	81%	84%	\$24,185.08
2E1	BACKFILLING CA TOTAL	\$6,513,397.00	\$2,478,155.66	\$578,558.81	\$1,899,597.05	\$4,035,241.34	38%	43%	\$2,052,733.25
2E2	DUMP SLOPING CA TOTAL	\$2,052,068.00	\$779,632.38	\$173,684.81	\$605,947.57	\$1,272,435.62	38%	42%	\$623,706.20
2E3	COVER PLACEMENT CA TOTAL	\$6,532.00	\$194.07	\$0.00	\$194.07	\$6,337.93	3%	3%	\$0.00
2E4	CONTAMINATED SOIL CA TOTAL	\$174,065.00	\$81,204.21	\$20,166.38	\$61,037.83	\$92,860.79	47%	31%	(\$20,461.66)
2E5	HIGHWALL CA TOTAL	\$258,416.00	\$58,321.27	\$0.00	\$58,321.27	\$198,094.73	23%	23%	\$2,253.46
2E6	EROSION CONTROL CA TOTAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E	EARTHWORK TASK TOTAL	\$9,002,478.00	\$3,397,507.50	\$772,409.80	\$2,625,097.70	\$5,604,970.41	38%	41%	\$2,858,231.25
2S1	UG ENTRIES ABANDON CA TOTAL	\$122,215.00	\$12,300.80	\$10.00	\$12,290.80	\$109,914.20	10%	20%	\$61,817.74
2S2	PIT WATER CA TOTAL	\$416,990.00	\$354,223.19	\$95,142.41	\$259,080.78	\$62,766.81	85%	62%	(\$2,983.93)
2S3	SS DEMOLITION CA TOTAL	\$175,829.00	\$135,426.07	\$3,641.12	\$131,784.95	\$40,402.93	77%	70%	(\$12,151.80)
2S4	SS DECON CA TOTAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2S5	PERMANENT STRUCTURES CA TOTAL	\$25,853.00	\$7,621.78	\$0.00	\$7,621.78	\$18,231.22	29%	10%	(\$50,364.80)
2S	STRUCTURES TASK TOTAL	\$740,887.00	\$509,571.84	\$98,793.53	\$410,778.31	\$231,315.16	69%	55%	(\$3,682.79)
2R1	SEEDING CA SUBTOTAL	\$54,917.00	\$0.00	\$0.00	\$0.00	\$54,917.00	0%	0%	\$0.00
2R2	IRRIGATION CA SUBTOTAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2R	REVEGETATION TASK TOTAL	\$54,917.00	\$0.00	\$0.00	\$0.00	\$54,917.00	0%	0%	\$0.00
2	CONSTRUCTION TOTAL	\$11,814,687.00	\$5,498,184.43	\$875,469.37	\$4,622,725.06	\$6,271,492.57	47%	51%	\$2,751,903.11

<b>JACKPILE PROJECT SUMMARY</b>									
1	MANAGEMENT TOTAL	\$851,572.00	\$547,697.42	\$0.00	\$547,697.42	\$303,875.24	64%	74%	\$110,578.81
2	CONSTRUCTION TOTAL	\$11,814,687.00	\$5,498,184.43	\$875,469.37	\$4,622,725.06	\$6,271,492.57	47%	51%	\$2,751,903.11
<b>GRAND TOTAL</b>		<b>\$12,666,259.00</b>	<b>\$6,045,881.85</b>	<b>\$875,469.37</b>	<b>\$5,170,422.48</b>	<b>\$6,575,367.81</b>	<b>48%</b>	<b>53%</b>	<b>\$2,862,481.92</b>

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POL-EPA01-0002886

WBS ID NO.	WORK PACKAGE DESCRIPTION	TOTAL COST ESTIMATE	YTD ACTUAL COST	ACTUAL EQUIP CREDIT	ACTUAL CASH FLOW	REMAINING COST ESTIMATE	% OF ESTIMATE SPENT	REPORTED % COMPLETE	ESTIMATED VARIANCE AT COMPLETION
<b>POL MGMT</b>									
1P1L01	PROJECT MANAGEMENT	\$110,859.00	\$72,886.10	\$0.00	\$72,886.10	\$37,972.90	66%	75%	\$13,677.53
1P1L02			\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
1P1L03			\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
1P1L04			\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
1P1L05			\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
1P1	POL MANAGEMENT CA TOTAL	\$110,859.00	\$72,886.10	\$0.00	\$72,886.10	\$37,973.56	66%	75%	\$13,677.53
<b>A/E</b>									
1P2L01	DESIGN AND SPECIFICATIONS		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
1P2L02			\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
1P2	ENGINEERING CA TOTAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
1P	POL MANAGEMENT TASK TOTAL	\$110,859.00	\$72,886.10	\$0.00	\$72,886.10	\$37,973.56	66%	75%	\$13,677.53
<b>CMC</b>									
1C1L01	CONSTRUCTION MANAGEMENT: UB	\$434,040.00	\$248,040.08	\$0.00	\$248,040.08	\$185,999.92	57%	65%	\$49,481.74
1C1L02	INSPECTION QA/QC		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
1C1L03	ENGINEERING		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
1C1L04	COST/SCHEDULE CONTROL		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
1C1L05A	ENVIRONMENTAL MONITORING: FY 90	\$106,654.10	\$21,654.81	\$0.00	\$21,654.81	\$84,999.29	20%	40%	\$52,517.08
1C1L06	CONTINGENCY		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
1C1	CONSTRUCTION MANAGEMENT CA TOTAL	\$540,694.10	\$269,694.89	\$0.00	\$269,694.89	\$270,999.21	50%	61%	\$101,998.81
<b>INTERIM CMC</b>									
1C2L01	CONSTRUCTION MANAGEMENT	\$116,337.65	\$115,775.00	\$0.00	\$115,775.00	\$562.65	100%	100%	\$562.65
1C2L02	CMC PURCHASES	\$5,392.35	\$5,392.35	\$0.00	\$5,392.35	\$0.00	100%	100%	\$0.00
1C2L03B	ENVIRONMENTAL MONITORING: INTERIM	\$78,288.90	\$83,949.08	\$0.00	\$83,949.08	(\$5,660.18)	107%	100%	(\$5,660.18)
1C2	INTERIM CMC CA TOTAL	\$200,018.90	\$205,116.43	\$0.00	\$205,116.43	(\$5,097.53)	103%	100%	(\$5,097.53)
1C	CONSTRUCTION MANAGEMENT TASK TOTAL	\$740,713.00	\$474,811.32	\$0.00	\$474,811.32	\$265,901.68	64%	74%	\$96,901.28
1	MANAGEMENT TOTAL	\$851,572.00	\$547,697.42	\$0.00	\$547,697.42	\$303,875.24	64%	74%	\$110,578.81
<b>LCC ADMIN</b>									
2L1L01	LCC G&A	\$810,300.00	\$597,500.00	\$0.00	\$597,500.00	\$212,800.00	74%	74%	\$2,867.57
2L1L02	LCC MARGIN		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	N/A
2L1	LCC COSTS CA TOTAL	\$810,300.00	\$597,500.00	\$0.00	\$597,500.00	\$212,800.00	74%	74%	\$2,867.57
	LCC G&A: MOBILIZATION	\$119,100.00	\$89,400.00	\$0.00	\$89,400.00				\$29,700.00

CONFIDENTIAL POL-EPA01-0002887

WBS ID NO.	WORK PACKAGE DESCRIPTION	TOTAL COST ESTIMATE	YTD ACTUAL COST	ACTUAL EQUIP CREDIT	ACTUAL CASH FLOW	REMAINING COST ESTIMATE	% OF ESTIMATE SPENT	REPORTED % COMPLETE	ESTIMATED VARIANCE AT COMPLETION
2L2L02	LCC INSURANCE: INTERIM	\$145,500.00	\$104,898.00	\$0.00	\$104,898.00	\$40,602.00	72%	100%	\$40,602.00
2L2L03	LCC ADMINISTRATIVE COSTS: INTERIM	\$176,000.00	\$176,000.00	\$0.00	\$176,000.00	\$0.00	100%	100%	\$0.00
2L2	LCC START-UP COSTS CA TOTAL	\$440,600.00	\$370,298.00	\$0.00	\$370,298.00	\$70,302.00	84%	100%	\$70,302.00
2L	LCC ADMINISTRATION TASK TOTAL	\$1,250,900.00	\$967,798.00	\$0.00	\$967,798.00	\$283,102.00	77%	82%	\$73,108.57
MOBILIZATION									
2M1L01			\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2M1L05	SMALL TOOLS & SAFETY EQUIPMENT	\$63,724.00	\$61,934.04	\$0.00	\$61,934.04	\$1,789.96	97%	100%	\$1,789.96
2M1L06	REMODEL PROJECT/FIELD OFFICES	\$46,520.00	\$50,732.20	\$0.00	\$50,732.20	(\$4,212.20)	109%	100%	(\$4,212.20)
2M1L07	RECONDITION JOBSITE	\$113,909.00	\$113,909.36	\$19.38	\$113,889.98	(\$0.36)	100%	100%	\$19.02
2M1L08	SET UP SHOP/MAINTENANCE FACILITIES	\$192,210.00	\$190,603.34	\$0.00	\$190,603.34	\$1,606.66	99%	100%	\$1,606.66
2M1X01	HIGHWAY CLOSURE/BARRICADING	\$45,000.00							
2M1	MOBILIZATION CA TOTAL	\$461,363.00	\$417,178.94	\$19.38	\$417,159.56	(\$815.94)	90%	90%	(\$798.58)
LAND SURVEY									
2M2N01	LAND SURVEY NP AREA	\$117,914.00	\$80,569.96	\$1,765.15	\$78,804.81	\$37,344.04	68%	75%	\$12,840.92
2M2S01	LAND SURVEY SP AREA		\$5,209.01	\$501.77	\$4,707.24	(\$5,209.01)	0%	0%	\$0.00
2M2J01	LAND SURVEY JP AREA		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2M2	LAND SURVEY CA TOTAL	\$117,914.00	\$85,778.97	\$2,266.92	\$83,512.05	\$32,135.03	73%	79%	\$12,840.92
TRAINING									
2M3L01	OPERATOR TRAINING: MOBILIZATION	\$14,600.00	\$0.00	\$0.00	\$0.00	\$14,600.00	0%	100%	\$14,600.00
2M3L02	OPERATOR TRAINING: EARTHWORK	\$171,628.00	\$120,359.09	\$1,979.74	\$118,379.35	\$51,268.91	70%	68%	(\$2,459.28)
2M3	LCC TRAINING CA TOTAL	\$186,228.00	\$120,359.09	\$1,979.74	\$118,379.35	\$65,868.91	65%	68%	\$12,140.72
2M	MOBILIZATION TASK TOTAL	\$765,505.00	\$623,317.00	\$4,266.04	\$619,050.96	\$97,188.00	81%	84%	\$24,185.08
BACKFILLING									
2E1N01	NP HAUL ROADS AND RAMPS	\$87,120.00	\$87,120.88	\$12,184.44	\$74,936.42	(\$0.88)	100%	100%	\$12,183.58
2E1N02	HAUL TO NP PIT: NP-PS-17	\$1,838,682.00	\$343,709.12	\$90,245.69	\$253,623.43	\$1,494,912.88	19%	40%	\$716,577.42
2E1N03	HAUL TO NP PIT: NP-PS-18	\$1,313,140.00	\$470,792.66	\$131,761.59	\$339,031.07	\$842,347.34	36%	63%	\$426,267.44
2E1N04	HAUL TO NP PIT: NP-PS-14	\$413,123.00	\$113,590.17	\$30,389.74	\$83,200.43	\$299,532.83	27%	96%	\$213,891.89
2E1N05	HAUL TO NP PIT: NP-PS-15	\$408,830.00	\$144,161.47	\$33,927.65	\$110,233.82	\$264,668.53	35%	88%	\$174,023.30
2E1N06	HAUL TO NP PIT: NP-PS-16	\$257,759.00	\$163,554.93	\$39,889.15	\$123,665.78	\$94,204.07	63%	95%	\$59,131.49
2E1N07	HAUL TO NP PIT: SP-PS-01	\$1,816,723.00	\$886,030.15	\$213,963.59	\$672,066.56	\$730,692.85	55%	100%	\$515,306.44
2E1N08	DELETED		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E1N09	DELETED		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E1N10	HAUL TO NP PIT: NP-WT-10	\$102,067.00	\$28,657.23	\$2,516.52	\$26,140.71	\$73,409.77	28%	11%	(\$173,793.85)
2E1N11	HAUL TO NP PIT: NP-PS-13	\$149,157.00	\$150,560.64	\$18,071.14	\$132,489.50	(\$1,403.64)	101%	100%	(\$1,403.50)
2E1N12	BACKFILL PIT: NP-OP-19	\$148,393.00	\$48,316.68	\$0.00	\$48,316.68	\$100,076.32	33%	100%	\$100,076.32
	NP BACKFILLING SUBTOTAL	\$6,334,994.00	\$2,436,553.91	\$572,949.51	\$1,863,604.40	\$3,898,440.09	38%	43%	\$2,029,280.54
2E1S01	CONSTRUCT SP HAUL ROADS	\$87,899.00	\$41,601.75	\$5,609.10	\$35,992.65	\$46,297.25	47%	85%	\$23,472.71
2F1S02	HAUL SP-PS-02 TO SP-OP-34	\$90,504.00	\$0.00	\$0.00	\$0.00	\$90,504.00	0%	0%	\$0.00
	SP BACKFILLING SUBTOTAL	\$178,403.00	\$41,601.75	\$5,609.10	\$35,992.65	\$136,801.25	23%	23%	\$23,472.71
	CONSTRUCT JP HAUL ROADS & RAMPS		\$0.00	\$0.00	\$0.00				\$0.00

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WBS ID NO.	WORK PACKAGE DESCRIPTION	TOTAL COST ESTIMATE	YTD ACTUAL COST	ACTUAL EQUIP CREDIT	ACTUAL CASH FLOW	REMAINING COST ESTIMATE	% OF ESTIMATE SPENT	REPORTED % COMPLETE	ESTIMATED VARIANCE AT COMPLETION
2E1J02	HAUL JP-PS-23 TO JP-OP-41		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E1J03	HAUL JP-PS-24 TO JP-OP-41		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E1J04	HAUL JP-PS-25 TO JP-OP-41		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E1J05	HAUL JP-PS-26 TO JP-OP-41		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E1J06	HAUL JP-WO-10 TO JP-OP-41		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E1J07	HAUL JP-PS-27 TO JP-OP-41		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E1J08	HAUL JP-WO-07 TO JP-OP-41		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E1J09	HAUL JP-WO-12 TO JP-OP-41		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E1J10	HAUL JP-WS-08 TO JP-OP-41		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E1J11	HAUL JP-WS-15 TO JP-OP-41		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E1J12	HAUL JP-WO-71 TO JP-OP-41		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E1J13	HAUL JP-WO-03 TO JP-OP-41		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E1J14	HAUL JP-WS-13/WO-20 TO JP-OP-42		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E1J15	DELETED		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
JP BACKFILLING SUBTOTAL		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00

2E1	BACKFILLING CA TOTAL	\$0,513,397.00	\$2,478,155.00	\$578,558.61	\$1,899,597.05	\$4,035,241.34	38%	43%	\$2,052,733.25
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DUMP SLOPING									
2E2N01	CUT NP-WO-01 SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2N02	CUT NP-WO-02 SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2N03	CUT NP-WS-03 SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2N04	CUT NP-WO-04 SLOPES	\$24,959.00	\$15,263.43	\$3,406.72	\$11,856.71	\$9,605.57	61%	100%	\$7,903.29
2E2N05	CUT NP-WO-06 SLOPES	\$23,741.00	\$494.43	\$41.88	\$452.75	\$23,246.57	2%	2%	(\$8,821.50)
2E2N06	CUT NP-WT-09 SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2N07	REGRADE NP-DN-22		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2N08	CUT NP-WM-12 SLOPES	\$14,262.00	\$0.00	\$0.00	\$0.00	\$14,262.00	0%	0%	\$0.00
2E2N09	CUT NP-HW-25 SLOPES	\$24,309.00	\$7,071.87	\$1,560.41	\$5,511.46	\$17,237.13	29%	100%	\$16,364.54
NP DUMP SLOPING SUBTOTAL		\$87,271.00	\$22,829.73	\$5,008.81	\$17,820.82	\$64,441.27	26%	26%	\$15,448.33
2E2S01	CUT SP-WO-13A/WO-10 SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2S02	CUT SP-WS-17 SLOPES	\$225,222.00	\$97,465.50	\$22,905.53	\$74,559.97	\$127,756.50	43%	90%	\$95,461.59
2E2S03*	CUT SP-WO-13B/WS-18A SLOPES	\$788,573.00	\$462,608.84	\$105,985.32	\$356,621.32	\$325,966.36	59%	90%	\$228,058.09
2E2S04	CUT SP-WO-14 SLOPES	\$54,671.00	\$24,099.72	\$5,621.00	\$18,478.72	\$30,571.28	44%	100%	\$24,803.28
2E2S05	CUT SP-WS-18B SLOPES	\$68,933.00	\$0.00	\$0.00	\$0.00	\$68,933.00	0%	0%	\$0.00
2E2S06	CUT SP-WS-18C/WT-19 SLOPES	\$694,880.00	\$93,976.14	\$21,787.97	\$72,188.17	\$800,903.88	14%	28%	\$244,538.11
2E2S07	CUT SP-WT-03 SLOPES	\$42,786.00	\$18,080.41	\$3,083.78	\$14,996.63	\$24,705.59	42%	95%	\$18,087.07
2E2S08	CUT SP-WT-05 SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2S09	CUT SP-WO-38 SLOPES	\$2,377.00	\$899.49	\$197.80	\$701.69	\$1,477.51	38%	100%	\$1,180.31
2E2S10	CUT SP-WS-06 SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2S11	CUT SP-WT-19A SLOPES	\$38,844.00	\$9,895.30	\$397.22	\$9,498.08	\$26,948.70	27%	30%	(\$2,491.27)
2E2S12	CUT SP-WO-12/WT-11 SLOPES	\$50,511.00	\$32,811.04	\$5,922.94	\$26,888.10	\$17,699.98	65%	65%	(\$1,377.31)
2E2S13	CUT SP-WT-15A/WT-15B SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2S14	DELETED		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2S15	CUT SP-WT-16/WT-37		\$11,153.81	\$2,471.83	\$8,681.98	(\$11,153.81)	0%	0%	\$0.00
2E2S16	DELETED		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2S17	DELETED		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2S18	DELETED		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2S19	CUT SP-MISCELLANEOUS SLOPES		\$810.14	\$189.57	\$620.57	(\$810.14)	0%	0%	\$0.00
SP DUMP SLOPING SUBTOTAL		\$1,904,797.00	\$751,797.99	\$168,562.76	\$583,235.23	\$1,212,999.01	38%	43%	\$808,259.87
CUT JP-WO-11 SLOPES			\$0.00	\$0.00	\$0.00				\$0.00

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WBS ID NO.	WORK PACKAGE DESCRIPTION	TOTAL COST ESTIMATE	YTD ACTUAL COST	ACTUAL EQUIP CREDIT	ACTUAL CASH FLOW	REMAINING COST ESTIMATE	% OF ESTIMATE SPENT	REPORTED % COMPLETE	ESTIMATED VARIANCE AT COMPLETION
2E2J02	CUT JP-WT-16D SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J03	CUT JP-WS-17 SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J04	CUT JP-PS-22 SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J05	CUT JP-WO-72 SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J06	DELETED		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J07	DELETED		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J08	CUT JP-WS-01 SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J09	CUT JP-WT-02A/02B/02C SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J10	DELETED		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J11	DELETED		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J12	CUT JP-WS-06 SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J13	CUT JP-WS-08/12 SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J14	CUT JP-WO-11 SLOPES		\$5,004.66	\$113.24	\$4,891.42	(\$5,004.66)	0%	0%	\$0.00
2E2J15	CUT JP-WS-16A/16B SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J16	DELETED		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J17	CUT JP-WS-18A/18B/18C SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J18	DELETED		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J19	DELETED		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J20	CUT JP-WO-14 SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J21	CUT JP-WS-19A SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J22	CUT JP-WS-19B SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J23	CUT JP-WS-19C SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J24	CUT JP-WO-06 SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J25	CUT JP-WO-70 SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J26	CUT JP-WO-18/66A SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J27	CUT JP-WO-18/66B SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J28	CUT JP-WO-18/66C SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J29	CUT JP-WO-03A SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J30	CUT JP-WO-03B SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J31	CUT JP-WO-04A SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J32	CUT JP-WO-04B SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J33	CUT JP-WO-05A SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E2J34	CUT JP-WO-05B SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
JP DUMP SLOPING SUBTOTAL		\$0.00	\$5,004.66	\$113.24	\$4,891.42	(\$5,004.66)	0%	0%	\$0.00

2E2	DUMP SLOPING CA TOTAL	\$2,052,068.00	\$779,632.38	\$173,684.81	\$605,947.57	\$1,272,435.62	38%	42%	\$623,706.20
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COVER PLACEMENT									
2E3N01	HAUL SOIL FROM NP-SB-61 TO NP-D8		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3N02	HAUL SOIL FROM NP-SB-26 TO NP-D2		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3N03	HAUL SOIL FROM NP-SB-27 TO NP-D7		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3N04	HAUL SOIL FROM NP-SB-27 TO NP-D9		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3N05	HAUL SOIL FROM NP-SB-27 TO NP-D6		\$194.07	\$0.00	\$194.07	(\$194.07)	0%	0%	\$0.00
2E3N06	HAUL SOIL FROM NP-SB-61 TO NP-D9		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3N07	HAUL SOIL FROM SP-DN-61 TO NP-D4		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3N08	HAUL SOIL FROM SP-DN-61 TO NP-D1		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3N09	HAUL SOIL FROM SP-DN-61 TO NP-D3		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3N10	HAUL SOIL FROM SP-DN-61 TO NP-D5		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3N11	HAUL SOIL FROM SP-DN-61 TO NP-D10		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
HAUL SHALE FROM NP-WS-31 TO NP-D6			\$0.00	\$0.00	\$0.00				\$0.00

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WBS ID NO	WORK PACKAGE DESCRIPTION	TOTAL COST ESTIMATE	YTD ACTUAL COST	ACTUAL EQUIP CREDIT	ACTUAL CASH FLOW	REMAINING COST ESTIMATE	% OF ESTIMATE SPENT	REPORTED % COMPLETE	ESTIMATED VARIANCE AT COMPLETION
2E3N13	HAUL SHALE FROM NP-WS-31 TO NP-D9		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3N14	DELETED		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3N15	DELETED		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3N16	HAUL SHALE FROM NP-WS-31 TO NP-D8		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3N17	HAUL SHALE FROM NP-WS-31 TO NP-D10		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3N18	HAUL SHALE FROM NP-WS-03 TO NP-D3		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3N19	HAUL SHALE FROM NP-WS-03 TO NP-D2		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3N20	DELETED		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3N21	HAUL SHALE FROM NP-WS-03 TO NP-D1		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
	NP COVER PLACEMENT SUBTOTAL	\$0.00	\$194.07	\$0.00	\$194.07	(\$194.07)	0%	0%	\$0.00
2E3S01	HAUL SOIL FROM JP-SB-54 TO SP-D1		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3S02	HAUL SOIL FROM JP-SB-54 TO SP-D2		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3S03	HAUL SOIL FROM JP-SB-54 TO SP-D3		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3S04	HAUL SOIL FROM SP-SB-42 TO SP-D4		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3S05	HAUL SOIL FROM SP-SB-42 TO SP-D5		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3S06	HAUL SOIL FROM SP-SB-42 TO SP-D6		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3S07	HAUL SOIL FROM SP-SB-42 TO SP-D7		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3S08	HAUL SOIL FROM JP-SB-54 TO SP-D8		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3S09	HAUL SOIL FROM JP-SB-54 TO SP-D9		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3S10	HAUL SOIL FROM SP-SB-42 TO SP-D10		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3S11	HAUL SOIL FROM SP-SB-42 TO SP-D11		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3S12	HAUL SOIL FROM SP-SB-42 TO SP-D12		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3S13	HAUL SOIL FROM SP-SB-42 TO SP-D1		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3S14	HAUL SHALE FROM SP-WS-17 TO SP-13A		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3S15	HAUL SHALE FROM SP-WS-17 TO SP-13B		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3S16	HAUL SHALE FROM SP-WS-07 TO SP-01		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3S17	HAUL SHALE FROM SP-WS-07 TO SP-14		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3S18	HAUL SHALE FROM SP-WS-07 TO SP-04		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3S19	HAUL SHALE FROM SP-WS-07 TO SP-D10	\$6,532.00	\$0.00	\$0.00	\$0.00	\$6,532.00	0%	0%	\$0.00
2E3S20	HAUL SHALE FROM SP-WS-07 TO SP-38		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3S21	HAUL SHALE FROM SP-WS-07 TO SP-10		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
	SP COVER PLACEMENT SUBTOTAL	\$6,532.00	\$0.00	\$0.00	\$0.00	\$6,532.00	0%	0%	\$0.00
2E3J01	HAUL SOIL FROM JP-SB-53 TO D4		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3J02	HAUL SOIL FROM JP-SB-53 TO D5		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3J03	HAUL SOIL FROM JP-SB-53 TO D6		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3J04	HAUL SOIL FROM JP-SB-53 TO D9A		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3J05	HAUL SOIL FROM JP-SB-53 TO D1		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3J06	HAUL SOIL FROM JP-SB-53 TO D3		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3J07	HAUL SOIL FROM JP-SB-54 TO D2		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3J08	HAUL SOIL FROM JP-SB-54 TO D7		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3J09	HAUL SOIL FROM JP-SB-54 TO D11		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3J10	HAUL SOIL FROM JP-SB-54 TO D12		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3J11	HAUL SOIL FROM JP-SB-54 TO D16		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3J12	HAUL SOIL FROM JP-SB-54 TO D15		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3J13	HAUL SOIL FROM JP-SB-54 TO D14		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3J14	HAUL SOIL FROM JP-SB-54 TO D9B		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3J15	HAUL SOIL FROM JP-SB-54 TO D10		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3J16	HAUL SOIL FROM JP-SB-54 TO D13		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3J17	HAUL SOIL FROM JP-SB-54 TO D8B		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
	HAUL SHALE FROM JP-WS-19 TO D4		\$0.00	\$0.00	\$0.00				\$0.00

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WBS ID NO.	WORK PACKAGE DESCRIPTION	TOTAL COST ESTIMATE	YTD ACTUAL COST	ACTUAL EQUIP CREDIT	ACTUAL CASH FLOW	REMAINING COST ESTIMATE	% OF ESTIMATE SPENT	REPORTED % COMPLETE	ESTIMATED VARIANCE AT COMPLETION
2E3J19	HAUL SHALE FROM JP-WS-15 TO D1		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3J20	HAUL SHALE FROM JP-WS-15 TO D2		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3J21	HAUL SHALE FROM JP-WS-15 TO D7		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3J22	HAUL SHALE FROM JP-WS-15 TO D11		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3J23	HAUL SHALE FROM JP-WS-15 TO D12		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3J24	HAUL SHALE FROM JP-WT-02 TO D8A		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3J25	HAUL SHALE FROM JP-WT-02 TO D10		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3J26	HAUL SHALE FROM JP-WT-02 TO D13		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3J27	HAUL SHALE FROM JP-WT-02 TO D14		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3J28	HAUL SHALE FROM JP-WT-02 TO D15		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E3J29	HAUL SHALE FROM JP-WT-02 TO D16		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
	JP COVER PLACEMENT SUBTOTAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00

2E3	COVER PLACEMENT CA TOTAL	\$6,532.00	\$194.07	\$0.00	\$194.07	\$6,337.93	3%	3%	\$0.00
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CONTAM SOIL EXV									
2E4NO1	HAUL CS FROM NP-CS-23/24 TO NP-OP-20		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
	NP CONTAMINATED SOIL SUBTOTAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E4S01	FM SP-CS-27/28/31/33/53 TO SP-OP-34	\$162,633.00	\$81,204.21	\$20,166.38	\$61,037.83	\$81,428.79	50%	50%	(\$20,461.66)
2E4S02	DELETED		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E4S03	DELETED		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E4S04	DELETED		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E4S05	DELETED		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E4S06	DELETED		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E4S07	HAUL CS FROM SP-CS-62/32 TO SP-OP-35	\$11,432.00	\$0.00	\$0.00	\$0.00	\$11,432.00	0%	0%	\$0.00
	SP CONTAMINATED SOIL SUBTOTAL	\$174,065.00	\$81,204.21	\$20,166.38	\$61,037.83	\$92,860.79	47%	50%	(\$20,461.66)
2E4J01	HAUL CS FROM JP-CS-36 TO JP-OP-41		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E4J02	HAUL CS FROM JP-CS-38/37 TO JP-OP-41		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E4J03	DELETED		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E4J04	HAUL CS FROM JP-CS-39 TO JP-OP-42		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
	JP CONTAMINATED SOIL SUBTOTAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00

2E4	CONTAMINATED SOIL CA TOTAL	\$174,065.00	\$81,204.21	\$20,166.38	\$61,037.83	\$92,860.79	47%	31%	(\$20,461.66)
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HIGHWALL RECLAM									
2E5N01	TRIM NP HIGHWALLS	\$67,698.00	\$0.00	\$0.00	\$0.00	\$67,698.00	0%	0%	\$0.00
2E5N02	SCALE NP HIGHWALLS	\$54,708.00	\$0.00	\$0.00	\$0.00	\$54,708.00	0%	0%	\$0.00
	NP HIGHWALL SUBTOTAL	\$122,406.00	\$0.00	\$0.00	\$0.00	\$122,406.00	0%	0%	\$0.00
2E5S01	TRIM SP HIGHWALLS	\$67,698.00	\$29,160.64	\$0.00	\$29,160.64	\$38,537.36	43%	50%	(\$4,487.28)
2E5S02	SCALE SP HIGHWALLS	\$66,312.00	\$29,160.63	\$0.00	\$29,160.63	\$37,151.37	44%	50%	\$6,740.74
	SP HIGHWALL SUBTOTAL	\$134,010.00	\$58,321.27	\$0.00	\$58,321.27	\$75,688.73	44%	44%	\$2,253.46
2E5J01	TRIM JP HIGHWALLS		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E5J02	SCALE JP HIGHWALLS		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
	JP HIGHWALL SUBTOTAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00

2E5	HIGHWALL CA TOTAL	\$256,416.00	\$58,321.27	\$0.00	\$58,321.27	\$198,094.73	23%	23%	\$2,253.46
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EROSION CONTROL									
2E6NO1	EROSION PROTECTION ROCK		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
	RELOCATE RIO MOQUINO CHANNEL		\$0.00	\$0.00	\$0.00				\$0.00

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WBS ID NO.	WORK PACKAGE DESCRIPTION	TOTAL COST ESTIMATE	YTD ACTUAL COST	ACTUAL EQUIP CREDIT	ACTUAL CASH FLOW	REMAINING COST ESTIMATE	% OF ESTIMATE SPENT	REPORTED % COMPLETE	ESTIMATED VARIANCE AT COMPLETION
2E6NO3	PLACE BEDDING MATERIAL		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
	RIO MOQUINO AND NP DITCH SUBTOTAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E6X01	STRIP QUARRY, DRILL, SHOOT ROCK		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E6X02	PROCESS SHOT ROCK		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
	ROCK SUBTOTAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E6	EROSION CONTROL CA TOTAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2E	EARTHWORK TASK TOTAL	\$9,002,478.00	\$3,397,507.59	\$772,409.80	\$2,625,097.79	\$5,604,970.41	38%	41%	\$2,668,231.25
UG ENTRIES ABAN									
2S1N01	SEAL PW 2/3 UG ENTRY: NP SUBTOTAL	\$317.00	\$0.00	\$0.00	\$0.00	\$317.00	0%	100%	\$317.00
2S1S01	SEAL P-13 ADIT	\$13,316.00	\$0.00	\$0.00	\$0.00	\$13,316.00	0%	0%	\$0.00
2S1S02	SEAL P-10 DECLINE	\$13,844.00	\$0.00	\$0.00	\$0.00	\$13,844.00	0%	0%	\$0.00
2S1S03	SEAL H-1 ADIT	\$10,902.00	\$476.07	\$0.00	\$476.07	\$10,425.93	4%	100%	\$10,425.93
2S1S04	SEAL VENT HOLES	\$56,840.00	\$11,824.73	\$10.00	\$11,814.73	\$44,815.27	21%	70%	\$23,878.81
2S1S05	PLUG DRILL HOLES	\$27,196.00	\$0.00	\$0.00	\$0.00	\$27,196.00	0%	100%	\$27,196.00
	SP UG ENTRIES ABANDON SUBTOTAL	\$121,898.00	\$12,300.80	\$10.00	\$12,290.80	\$109,597.20	10%	20%	\$81,500.74
2S1J01	SEAL JP-SS-60 ENTRIES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2S1J02	SEAL JP-SS-46 ENTRIES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
	JP UG ENTRIES ABANDON SUBTOTAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2S1	UG ENTRIES ABANDON CA TOTAL	\$122,215.00	\$12,300.80	\$10.00	\$12,290.80	\$109,914.20	10%	20%	\$81,817.74
PIT WATER									
2S2N01	DISPOSE OF NP PIT WATER	\$141,066.00	\$101,935.47	\$30,761.23	\$125,174.24	(\$20,269.47)	114%	100%	\$16,491.76
2S2S01	DISPOSE OF SP PIT WATER	\$93,920.00	\$104,279.00	\$22,454.62	\$81,824.38	(\$10,359.00)	111%	90%	\$1,460.02
2S2J01*	DISPOSE OF JP PIT WATER	\$181,404.00	\$88,008.72	\$35,926.56	\$52,082.16	\$93,395.28	49%	28%	(\$20,944.71)
2S2	PIT WATER CA TOTAL	\$416,990.00	\$354,223.19	\$95,142.41	\$259,080.78	\$62,766.81	85%	62%	(\$2,983.93)
SURF STRUC DEM									
2S3N01	DEMOLISH NP SURFACE STRUCTURES	\$2,947.00	\$1,172.41	\$0.00	\$1,172.41	\$1,774.59	40%	100%	\$1,774.59
2S3S01	DEMOLISH SP SURFACE STRUCTURES	\$57,896.00	\$33,497.32	\$19.38	\$33,477.94	\$24,398.68	58%	58%	\$175.41
2S3J01	DEMOLISH JP SURFACE STRUCTURES	\$114,986.00	\$100,756.34	\$3,621.74	\$97,134.60	\$14,229.66	88%	93%	(\$14,101.81)
2S3	SS DEMOLITION CA TOTAL	\$175,829.00	\$135,426.07	\$3,641.12	\$131,784.95	\$40,402.93	77%	70%	(\$12,151.80)
SURF STRUC DECOM									
2S4XY	NOT ASSIGNED		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2S4	SS DECOM CA TOTAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
PERM STRUC									
2S5N01	CONSTRUCT PERMANENT ACCESS ROADS: NP		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2S5N02	CONSTRUCT PERMANENT FENCES: NP AREA	\$25,853.00	\$7,621.78	\$0.00	\$7,621.78	\$18,231.22	29%	10%	(\$50,364.80)
	NP STRUCTURES SUBTOTAL	\$25,853.00	\$7,621.78	\$0.00	\$7,621.78	\$18,231.22	29%	10%	(\$50,364.80)
2S5S01	CONSTRUCT PERMANENT ACCESS ROADS: SP		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2S5S02	CONSTRUCT PERMANENT FENCES: SP AREA		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
	SP STRUCTURES SUBTOTAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00

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WBS ID NO.	WORK PACKAGE DESCRIPTION	TOTAL COST ESTIMATE	YTD ACTUAL COST	ACTUAL EQUIP CREDIT	ACTUAL CASH FLOW	REMAINING COST ESTIMATE	% OF ESTIMATE SPENT	REPORTED % COMPLETE	ESTIMATED VARIANCE AT COMPLETION
2S5J01	CONSTRUCT PERMANENT ACCESS ROADS SP		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2S5J02	CONSTRUCT PERMANENT FENCES, SP AREA		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
	JP STRUCTURES SUBTOTAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2S5	PERMANENT STRUCTURES CA TOTAL	\$25,853.00	\$7,621.78	\$0.00	\$7,621.78	\$18,231.22	29%	10%	(\$50,364.80)
2S	STRUCTURES TASK TOTAL	\$740,887.00	\$509,571.84	\$98,793.53	\$410,778.31	\$231,315.16	69%	55%	(\$3,682.79)
SEEDBEDS									
2R1N01	PREPARE BED & SEED NP FLAT AREAS		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2R1N02	PREPARE BED & SEED NP SLOPE AREAS		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
	NP SEEDING SUBTOTAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2R1S01	PREPARE BED & SEED SP FLAT AREAS		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2R1S02	PREPARE BED & SEED SP SLOPE AREAS		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2R1S03	RESEED AT HOUSING AREA	\$54,917.00	\$0.00	\$0.00	\$0.00	\$54,917.00	0%	0%	\$0.00
	SP SEEDING SUBTOTAL	\$54,917.00	\$0.00	\$0.00	\$0.00	\$54,917.00	0%	0%	\$0.00
2R1J01	PREPARE BED & SEED JP FLAT AREAS		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2R1J02	PREPARE BED & SEED JP SLOPE AREAS		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
	JP SEEDING SUBTOTAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2R1	SEEDING CA SUBTOTAL	\$54,917.00	\$0.00	\$0.00	\$0.00	\$54,917.00	0%	0%	\$0.00
IRRIGATION									
2R2N01	IRRIGATE NP AREA PIT SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2R2S01	IRRIGATE SP AREA SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2R2J01	IRRIGATE JP AREA SLOPES		\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2R2	IRRIGATION CA SUBTOTAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	0%	\$0.00
2R	REVEGETATION TASK TOTAL	\$54,917.00	\$0.00	\$0.00	\$0.00	\$54,917.00	0%	0%	\$0.00
2	CONSTRUCTION TOTAL	\$11,814,687.00	\$5,498,194.43	\$875,469.37	\$4,622,725.06	\$6,271,492.57	47%	51%	\$2,751,903.11

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## 5.2 WORK PACKAGE DISCUSSION

<u>WP#</u>	<u>DESCRIPTION</u>	<u>REMARKS</u>
1C1L01	Engineering	on-going; "special cases" being done;
1C1L05	Environmental	on-going; 2nd Quarter report distributed;
2L1L01	G & A	on-going;
2M2N01	Surveying	on-going;
1P1L01	POL Management	on-going;
2M1X01	Highway barricades	closed till 5/31/91
2M3L02	Operator training	on-going for new hires
2E1N02	Haul NP-PS-17	temporarily stopped pending completion of PS-18;
2E1N03	Haul NP-PS-18	ongoing thru Sept. with truck fleet;
2E1N04	Haul NP-PS-14	substantially complete; clean up "hot spots";
2E1N05	Haul NP-PS-15	same as PS-14
2E1N06	Haul NP-PS-16	boulders still have to be hauled to pit;
2E1N07	Haul SP-PS-01	ready for shale cover;
2E1N10	Haul NP-WT-10	pending backfill finish;
2E1N11	Haul NP-PS-13	substantially complete; cleanup "hot spots"
2E1S01	S. Paguete Haul Roads	on-going with backfill;
2E2N05	Cut NP-WO-04 slopes	pending backfill finish;
2E2S02,03	Cut S. Paguete slopes	remaining volume to be done with scrapers;
2E2S06	SP-WT-18C/19 slopes	ongoing with dozers;
2E2S07	Cut SP-WT-03 slopes	substantially complete;

**5.2 WORK PACKAGE DISCUSSION**  
(continued)

<u>WP#</u>	<u>DESCRIPTION</u>	<u>REMARKS</u>
2E2S11	Cut SP-WT-19A slopes	ongoing; to be finished with OP-35 backfill;
2E2S12	SP-WO-11/12 slopes	substantially complete;
2E4S01	Contaminated soil	ongoing thru October;
2E5N01,02	Trim/scale highwalls	drill & blasting costs to-date only; finish pending backhoe rental
2S2S01	Dewater South Paguate	ongoing thru September;
2S5N02	NP fence construction	ongoing; will also do some in South Paguate
2S1S04	Seal Vent Holes	two remaining in the Jackpile area;
2S1S02	Seal P-10 decline	new method being reviewed by BLM;
2S3S01	Demolish SP structures	will dispose of asbestos water heaters off-site; awaiting Council direction on final use of remaining buildings;
2S3J01	Demolish JP structures	almost completed;

### 5.3 WORK PACKAGE CLOSEOUTS

- 1) Items submitted by LCC, Inc. for Final Closeout/Inspection

NONE in August, 1990

- 2) Items submitted by Pueblo of Laguna to BIA for final closeout:

NONE in August, 1990

#### CORRECTION TO JULY, 1990 REPORT:

Work Package 2S3S01-Demolish  
North Paguete Structures was  
closed in July, 1990.

The correct work package  
number should be: 2S3N01

#### **5.4 CHANGE ORDER SUMMARY**

None for August, 1990.

## **6.1 PERFORMANCE MEASUREMENT**

Rain delays during August caused the schedule to slip by about 5 working days but with the previous gains it is not seen as a problem. Another detailed Unit Cost Summary is being prepared for Council-only review in conjunction with the 2nd Year Plan. Production continues at better-than-base-line levels but the upcoming work (shale and soil hauls) are not expected to be as productive or closely comparable to the protore/mine waste experience. The presence of rock and blocky material in the shales and soils will slow the equipment down to some degree. Concern over rising fuel costs will require close monitoring but is not expected to be prohibitive for the near term.



**APPENDIX A: SPECIAL REPORTS/PLANS**

- 1) Jim Harrison-Landmark Reclamation  
*Monthly Inspection Summary-August, 1990*
- 2) Regulatory & Reclamation Process Update  
*The Jackpile Uranium Mine Reclamation Project*

# LANDMARK RECLAMATION

**DATE:** September 4, 1990

**TO:** Jim Olsen, Jr., P.E. - Reclamation Project Manager

**FROM:** Jim Harrison, Engineering Services

**RE:** Inspection Report, Month of August, 1990 --  
Jackpile Reclamation Project.

August proved to be a "wet enough" month. There were rainy days at mid-month that turned to afternoon showers towards the end of the month. Because of the rain, the dozers were shut down on the 14th, and on the 15th the scrapers and FEL's/Trucks. The operation stayed down until the following Monday, the 20th. Over that weekend, the Rio Moquino swelled from the run-off and overflowed the road crossing, washing out the road to a depth of over ten feet. The reason for pointing this out is that Jacobs Engineering had scheduled LCC to be working in the Rio Moquino channel during the month of August. This kind of flash flood could have damaged equipment and even possibly harmed life. Management, more experienced than Jacobs, was right to change Jacobs' schedule.

The terrace on WM-12 held up under all this rain.

While sloping was completed on the South Paguate Work Packages 13A, 18B and 17, backfilling is still being charged to 13A/18B. Sloping to the east of the pit took place, and most of this work looks complete: WS-11; WS-16,37; WM-36; WS-08; and WT-03. The berm on WS-37 looks especially good. The position of the pipeline is the only thing that is stopping WM-12 from being complete. All the dozers but one were taken away from this area at the end of the month.

We received the results from the surface and ground water sampling program. The readings were as expected -- no surprises.

Monitor Well #8 recharged back to its original level -- which is good.

The weather station was calibrated and the recorder activated on August 8th.

**REGULATORY AND RECLAMATION PROCESS UPDATE:**  
***THE JACKPILE URANIUM MINE RECLAMATION PROJECT***

by:

James H. Olsen, Jr., P.E.-Reclamation Project Manager  
Pueblo of Laguna

and

Michael J. Bone, P.E.-Engineering Section Manager  
Roy F. Weston, Inc.

September, 1990

## REGULATORY AND RECLAMATION DESIGN PROCESS UPDATE:

### *JACKPILE URANIUM MINE*

#### *I. INTRODUCTION*

The Jackpile-Paguate Uranium was, in the late 1970's, the largest surface/underground uranium mining complex in the world. The operation is located on the Laguna Indian Reservation in west-central New Mexico, approximately forty miles west of Albuquerque, New Mexico. It was operated by the Anaconda Company (later a subsidiary of the Atlantic-Richfield Company) from 1953 to 1982. Upon closure, the environmental impacts for reclaiming the site were identified and evaluated in an Environmental Impact Statement prepared by the Department of the Interior as a joint effort between the Bureau of Indian Affairs and the Bureau of Land Management on behalf of the Pueblo of Laguna. Upon completion, a Record of Decision was published (in 1986) outlining the intent of the reclamation effort and some of the specific requirements for achieving the various goals. Engineering design work, job cost estimation, and equipment purchases were made with the Pueblo of Laguna assuming responsibility for the reclamation work. The Jackpile Reclamation Project formally mobilized and began the reclamation activities on July 17, 1989 but early into the Project, several of the key criteria and their applicability to the site were still in question. Given that the funds available to perform the work were limited for the Pueblo of Laguna, it was imperative that special care and attention be given to the associated "value-engineering" in order to be as cost-effective as practical and yet still meet the intentions and requirements of the Record of Decision.

#### *II. BACKGROUND*

The primary objective of the Record of Decision resulting from the Environmental Impact Statement process was to insure human health & safety. This was to be achieved by placing of the low-grade ore into the pit bottoms and prevent their erosion into water and airways. This included covering these and other contaminated materials with the appropriate thicknesses of shale and topsoil. The cover materials served the purposes of inhibiting radon gas and gamma radiation emissions as well as sufficient soil thickness to support vegetation comparable to the surrounding area.

The numerous and extensive waste dumps on the site had been evaluated for stability utilizing generally accepted slope stability techniques. To avoid the potential for catastrophic failure, it was decided to reduce the angle of repose from 1.5:1 (horizontal:vertical) to a 3:1 slope. The presence of "benches" was also to be eliminated since the potential for ponding of water on the outside edges of these slope benches could cause "piping" and eventual failure.

As the Project began, numerous field visits by the Pueblo Reclamation Manager, Bureau of Indian Affairs Project Engineer, and the Laguna Construction Company management raised questions on the applicability of the criteria in some cases. The exceptions noted were:

- 1) Some dumps had been reclaimed during the mid- to late-1970's and had been demonstrated to be stable and supporting excellent stands of vegetation. While some of the slopes on these dumps had "spotty" vegetation, some remedial revegetation work was thought to be a more cost effective alternative to upsetting already-established growth.
- 2) No "slip circle" type slope failures had been observed on the site and many of the dumps have been in the same state for more than twenty-five years. Problems with washouts had occurred in some cases but these were the result of concentrated water run-off due to improper water diversion, not instability of the dump material. The heights of some dumps was shallow enough to indicate that the stability concerns may have been overstated.
- 3) The installation of the 3:1 slope increases the slope length and in some of the larger dumps, the slope lengths would have been in excess of 1200 feet long. Consultation with other regulatory and reclamation personnel at several surface mine sites in New Mexico indicated these long, uninterrupted slope lengths would fail since the runoff velocities would be high enough to remove the topdressing. In fact, it had been demonstrated both empirically and theoretically that slope lengths over 200 feet long would begin to have problems. In other reclamation environments, the slope lengths which met the criteria for the Jackpile Project would not have been allowed by the regulatory agencies.
- 4) Reclamation technology and practice in New Mexico had changed from the accepted practice upon which the Record of Decision (in 1986) had been based. Long slopes, use of contour furrowing, applications of fertilizer, seed mixtures, use of seed drilling, disturbance of previously reclaimed areas, and other items led the Project Management group to undertake a re-evaluation of these portions of the criteria.

It was not the intention of the Project Management group to perform a "complete redesign" of the Project but it was felt important that the final, (and visual) success of the effort would rest heavily on the extent and stability of the revegetation work. Not to be taken lightly, too, is the need to finish the site and blend in with the natural surroundings. Ever present was the need to be as cost-effective as possible and avoid creating more problems than the ones currently at hand and duplication of effort by re-working stable sites. Thus, the approach taken by the group was one which would be in compliance with the "spirit" of the Record of Decision goals and objectives but obtain the approval to utilize more current (and demonstrably better) techniques than those specified in the Record.

In order to initiate the Project in a timely fashion so that the more serious environmental concerns could be dealt with (placing of the low-grade materials in the pit bottoms, clean up of contaminated soils, etc.), the effort in the first year was directed to those areas. Concurrently, addressing and settling the aforementioned slope and revegetation issues was undertaken while the Laguna Construction Company performed the other earthmoving tasks. This approach met with the approval of the Bureau of Indian Affairs oversight personnel since it allowed for some re-evaluation of the remaining design issues yet did not impede the progress of dealing with the more immediate problems. Only work for which the final plans and specifications had been approved by both the Pueblo of Laguna and the Bureau of Indian Affairs was scheduled and the final erosion control, special slope conditions, and revegetation specifications were deferred for further study.

The Pueblo of Laguna, the Bureau of Indian Affairs, Bureau of Land Management, the Laguna Construction Company, and an engineering/reclamation consulting team (Landmark Reclamation/Roy F. Weston, Inc.) combined their efforts in January, 1990 to finalize the remaining issues and settle on the specifications which would govern the Project thru completion.

Early in this effort, it became apparent that some of the items proposed would be in direct conflict with the Record document. Significant changes to the Record of Decision were felt to potentially cause two negative results:

- 1) Resistance and conflict from the oversight agencies since a Record of Decision should stand as it was written since other options had already been considered;
- 2) Re-initiating the entire evaluation process which could trigger more expense and time, in turn delaying the Project and burdening an already-fixed monetary fund.